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ABSTRACT

This document addresses the need for educators and natural resource management personnel to work together in developing environmental education programs. The goals suggested for such programs include: (1) providing each individual with the ability to develop a lifestyle which is compatible with a healthy and productive ecosystem; and (2) encouraging responsible social behavior which is supportive of good resource management and environmental conservation, and carries with it a commitment to effective action. Several recommendations relating to basic program support are presented, along with some advice to resource management personnel about some traditional agency programs. The California Energy Education Forum guidelines are presented as an example of (1) how to produce, distribute and use school materials; and (2) programs and activities that strive to be unbiased. The development of the Western Regional Environmental Education Council (WREEC), a cooperative program of state education agencies and state resource management agencies, is described. Project Learning Tree and Project WILD, two WREEC programs being disseminated internationally, are outlined. (TW)

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EDUCATORS AND RESOURCE MANAGERS: A PARTNERSHIP WITH A FUTURE

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INTRODUCTION

Flying can be an instructive and rewarding experience for one sensitive to environmental and resource use concerns. Spread out below is an ever-changing panorama of mountains, cities, forests, agricultural lands, waters, waterways, and deserts. This view from above helps one gain a better perspective as to how we as humans relate to our earthly home and its resources.

It is a mixed picture to be sure. There are well-planned and spacious communities, and there is the sleaze of uncontrolled urban sprawl. Lush green farmlands which provide a myriad of useful products may be seen gradually giving way to eroded, overworked and submarginal agricultural areas. Well-managed commercial forests as well as parks and wilderness areas in which wildlife flourishes and the waters run fresh and clear are in contrast with crowded freeways and pollution-laden industrial areas. Waterways run clean and clear to pristine bays in some places while others are merely open sewers. It is all there, the good and the bad, depending on one's perspective.

What we see below tells us a lot about who we are and what

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we are--both as individuals and as people. We have been blessed with a rich and productive land and have applied to it a technology which provides for us those things which we prize and value. Quite literally we have used and are using our technology to carve upon the land a likeness of ourselves. If there is ugliness there, it is our ugliness. If there is beauty, it is our beauty. And we are still free to choose.

Fortunately for us the land can be to some extent forgiving. The misuse and abuse of the past as we have seen in many instances can be erased or at least alleviated if we are willing to direct our technologies to these ends.

A concern for the land and its resources is basic to our survival, both as individuals and as a nation, for we cannot live apart from it. Environmental health and well being is therefore human health and well being as well.

And what of the future? What will our land be like in twenty, forty, a hundred years? No one can really be certain but the trends are here, and we are gaining in our knowledge of environmental cause and effect.

We can be sure, however, that our environmental future is to a large degree in our hands. We have our technologies and we are gaining in our ability to manipulate the physical environment and its resources, for better or for worse. The directions we take with our technologies are very much dependent upon the values and

choices we make, individually and socially.

Two elements of society play key roles in shaping future environments: resource management and education. Both are concerned with the future. The goal of education is the highest and best use--or conservation--of human resources. The goal of resource management is the highest and best use--or conservation--of natural resources. Both goals are interdependent.

What is it we should expect environmentally speaking from these two key agencies of society? The major goals of resource and environmental management may be summarized as:

* creating and maintaining a physical environment which promotes human health and well being.
* making available to society a sufficient supply of natural resources to enable us to meet our reasonable needs and expectations, now and in the future
* creating, preserving, and enhancing the amenities which give meaning and purpose to life--well-planned recreational areas, wildlife and natural areas, historical resources, clean and well-planned cities, etc.

And what should be expected of educators in respect to resource and environmental conservation? We must accept responsibility for providing nothing less than a comprehensive preschool through graduate level program directed toward achieving two major goals:

1. Helping each individual develop a lifestyle which is compatible with a healthy and productive ecosystem. A myriad of factors must be considered by the individual in developing such a lifestyle. Family planning, food, clothing and housing options, transportation and recreation choices, career selection, habits, attitudes and behaviors in the work environment, one's appetite and demands for goods and services--all these and additional options must be weighed with respect to their effect upon the physical environment and its resources. An educational program to help students make such choices should permeate all areas of the curriculum at all levels and involve community support and participation as well.

2. Encouraging responsible social behavior which is supportive of good resource management and environmental conservation and carries with it a commitment to effective action. Individual action is not enough. We must work together through our social institutions, and be willing to get involved personally if necessary, to create and maintain an environment which promotes human health and well being. It is encouraging to note that, since the early 1970s, public opinion polls consistently indicate there is strong public support for environmental and resource conservation programs--even if additional taxes or other expenditures are required to conduct them.

To summarize these introductory comments, I trust we may

agree that the goals of educators and the goals of resource management professionals--wise use of human and natural resources--are interdependent, and that our success in creating an informed public environmental ethic is vital to the future of our land and its people. Assuming that we are in agreement as to goals, we need to inquire of ourselves as to our success in meeting them. What is? What ought to be? The following observations and suggestions are based on over 25 years experience in the field of environmental education. Hopefully they may be of value.

BASIC PROGRAM SUPPORT

Resource management professionals and their agencies are usually more interested in and supportive of conservation/environmental education than is the professional education establishment. For example, in California it was pressure from the state's Secretary for Resources and a number of conservation associations that precipitated legislative hearings which in turn resulted in the establishment of curriculum requirements for conservation and environmental education as well as an office of environmental education in the state's Department of Education. Originally established in 1968, those curriculum requirements and that office of environmental education--with related program activities--continue to this day. Funds for

local assistance programs are allocated to the Department of Education from the state's Environmental License Plate Fund, which is controlled by the Secretary for Resources.

In Colorado, financial support for several full-time conservation education professionals comes from the state's Division of Wildlife. One of these professionals is officially assigned to both the Colorado Department of Education and the Colorado Division of Wildlife. In Missouri, it is the Department of Conservation--not the state's education agency--that has primary responsibility for the statewide conservation education program. The Project Learning Tree and Project WILD programs now in use in over 40 states depend to a great degree upon resource management and education agency cooperation. At the federal level, the leadership is primarily with the resources agencies, the Department of Education showing little interest or involvement.

It is important that resource management professionals, non-governmental conservation organizations, and concerned citizens recognize this situation, and do all they can to assure that the education establishment recognizes the need for effective environmental education programs and does something about it.

ADVICE TO RESOURCE MANAGERS

Although resource management agencies and interests

generally and increasingly support conservation and environmental education, they do not always know how to translate their enthusiasm into effective classroom materials, programs, and activities. Professional educators and resource managers should work together to assure that what is produced for school use will fit in with what the schools are doing and will be of professional quality from an educator's perspective.

Without such cooperative approaches and assistance, resource management people often become involved in educational programs and activities of questionable or marginal value. Here are some examples.

Equating "Telling the Agency Story" with Education Good education involves presenting issues and helping youngsters develop the skills, knowledge, and attitudes to make good decisions. To put it another way, we should be concerned with helping students learn how to think, not what to think. Opinion and/or agency policy may be presented as a part of an educational program or activity, but it should always be identified as such.

The "One Shot" Classroom Presentation A great number of agency people spend much of their time doing "one shot" classroom programs which involve no previsit or follow up learning activities and, more often than not, do not relate to the regular

classroom program. Such presentations are frequently of little value and are not cost effective. How many agency people working how many years would it take to reach California's 4.5 million public school students this way? Classroom visits by a resource professional should only be done when: 1) there are definite goals and objectives to be met by the visit which are mutually agreed upon and understood by the classroom teacher and the resource professional; 2) there are previsit and follow up student activities; and 3) the teacher works with the resource professional during the classroom visit.

Materials and Programs--Shotguns Versus Rifles Effective educational programs and materials must connect to the ongoing school program in many ways. Reading grade level, relationship to the regular curriculum, teacher usability, and compatibility with state and/or district policies are among the many factors which must be taken into account in developing usable classroom programs and materials. Clearly the "rifle" approach--targeting a specific need and creating a well-designed program to meet it--is to be preferred to "shotgunning" the schools with materials which may or may not be of value.

Equating Mailing Out Materials with Good Program Implementation Teachers and administrators get lots of mail, and much of it ends

up in the round file. In other instances, that nice book or study guide lovingly prepared by a natural resource agency ends up on a shelf somewhere to be read "when time permits," but as we all know, time never permits. Producing good materials is only half the job. An effective implementation plan which helps the teacher understand the materials and use them effectively is absolutely necessary if an educational program is to be a success.

Going Through the Front Door--Wholesale Versus Retail Most resource management professionals recognize that there are organizations and channels which must be acknowledged and utilized in their area of expertise if they are going to accomplish anything. The same is true within the education establishment. Contacting and dealing directly with an individual teacher or one school with your program or materials is first of all not cost effective and, second, may violate state or school district policies. It is different if the teacher or school contact you in response to programs and materials you may be offering. All states have a state education agency which may be of help. Typically, you should check there first. In some states, there is an intermediate agency such as a county office which serves a number of school districts. You may find help there. The local school district exercises direct control over

all schools in its service area, and you should always make contact with the superintendent or similar official before going into the schools with your program or materials. Going through the front door helps you gain district level support and endorsement for your program and offers you access to mechanisms which enable you to work at the wholesale rather than the less efficient retail level.

As an example of what is possible when resource managers and educators work together, I am including excerpts from a policy statement which I wrote for and with the input of the California Energy Education Forum, an association of educators, public utility representatives, and governmental regulatory agencies. The guidelines were later modified and adopted for national use by the Alliance for Environmental Education.

"California Energy Education Forum (CEEF): Guidelines for the Production, Distribution, and Use of School Materials, Programs, and Activities . . . General Considerations. Worthwhile and effective energy education programs, activities, and materials:

--have clearly stated goals and objectives stated in terms of expected student behavior;

--are directed toward the best interests of teachers, students, their families, and the community;

--treat controversial issues fairly and honestly and do not

advocate any one particular point of view;

--are concerned with helping students learn how to think, not what to think;

--clearly identify opinion and company or agency policy if included;

--are not used to sell products, agency policies, or political points of view;

--are sensitive to human values and avoid racial, sexual, occupational, regional, or other stereotypes.

"Design and Production of Materials. Effective educational programs and materials result when:

--clearly stated and measurable goals and objectives are established early in the developmental process;

--those who will be using the materials--students, teachers, administrators--are involved in the developmental process;

--they are designed to mesh with ongoing educational activities and are compatible with adopted courses of study, and state frameworks;

--provision is made for student-teacher creativity and innovation;

--they are targeted to specific grade levels and subject matter areas;

--the materials are attractive, well-packaged, and convenient to use;

--test instruments and evaluation suggestions for classroom use are provided.

"Program Implementation. An effective implementation plan is needed if educational programs and materials are to be of maximum effectiveness. A good implementation plan:

--includes provision for the instruction of those who will be using the materials;

--makes use of the services available through professional associations, teacher training institutions, staff development centers, county offices of education, the state Department of Education, and other related agencies.

"Evaluation. The value of all programs and materials is determined by their effectiveness with students. Evaluation is therefore a key program element and should provide for:

--field testing and evaluation of all programs and materials in terms of stated goals and objectives by students and teachers prior to wide-scale implementation;

--provision for continuous feedback and modification as needed once a program is underway. . . . " (R. J. H. Schafer personal files: 1980)

ADVICE TO EDUCATORS

Now that we have looked at some of the concerns educators have in working with resource management people, let us reverse the

process and look at some of the problems resource management agencies have in working with educators. Certainly they exist, and here are a few examples.

Ineffective Use of a Resource Person's Time As noted above, a good learning experience for students has definite goals and objectives and is carefully planned and carried out. Unfortunately, there are some teachers who will invite nearly anyone with any kind of a presentation to visit their classroom. All too often, there is no preplanning, or follow up, and in some cases the teacher leaves the classroom while the presentation is in progress. Sad to say, some of my resource agency friends accept this unprofessional conduct as fairly normal operating procedure.

The Unplanned Visit A number of parks, nature areas, and historic sites open to the general public are sometimes considered fair game by educators for an unplanned and unannounced drop-in visit. Two or three buses pull up, a hundred or so youngsters pile out, and you can imagine the problems. The situation is often compounded by the teachers going off somewhere for a cup of coffee while the facility personnel attempt to handle the situation as best they can. Needless to say, such visits are of little or no educational value to the youngsters

and are really an unfair imposition on those who have to cope with the situation. Visits should be planned in advance.

Give Me Thirty of Everything You Have Teachers are good at obtaining lists of agencies which offer free materials and then requesting a great mass of things which they may or may not use. The idea seems to be, "Well, it is all free; I'll look it over, use what I want, and dump the rest." Did it ever occur to such people that one ought to practice good conservation in gathering the materials with which to teach it? There is a significant price tag attached to any mailing an agency prepares and sends to a teacher. In recent years, it has been estimated that a single letter costs nearly $5.00 for an agency to prepare and mail. Educators should consider this in contacting agencies for assistance. Letters from an entire classroom of students should be mailed in one envelope so that one general reply will suffice. Class, school, or district orders for materials or information should be combined in order to save shipping and handling costs.

The Santa Claus Syndrome Many educators see resource management agencies and the private sector as vast reservoirs of money and materials all of which is theirs for the asking. Certainly there are resources which can be drawn upon, but requests must be

reasonable, and the outcomes evident. For example, it is typically much easier to obtain funds to print or purchase a handbook, guide, or other printed materials than it is to fund the research and development required. Similarly, the chances for success in obtaining funds for teacher travel, materials, and services for a teacher workshop are much better than in asking for the funds to organize the meeting and develop the syllabus. The point here is that most "sources" feel more comfortable being a part of the project in which you and others are contributing rather than being the Santa who pays for everything.

SUCCESS IS POSSIBLE

Given my own vantage from working actively in the field of conservation and environmental education since the mid 1960s, I am delighted to give you one particularly outstanding example of the fact that it is possible for resource management personnel and educators to work together with exceptional results. We still have much progress to make, and more to accomplish--but we have tangible evidence that the partnership is valid, productive, and mutually beneficial.

Western Regional Environmental Education Council (WREEC)

Recognizing the importance of the educator/resource professional partnership, in 1976 I contacted a number of people in the western region of the United States who had state level

responsibilities for environmental education to see if we might get together to compare notes on our respective programs and explore ways in which we might help each other. Out of this initial meeting ultimately grew the Western Regional Environmental Education Council, now a not-for-profit organization which includes educators and resource management personnel from 13 western states. WREEC meets regularly and members exchange notes and information as well as working on projects and activities of benefit to all. In its early days, WREEC was supported by a grant from the then U.S. Office of Education. Since 1975, membership dues and projects for which the organization contracts provide operational funds. The original stated purposes for WREEC were:

--helping each state department of education from the 13 member states develop an environmental education program which was to include roles, responsibilities, and administrative mechanisms;

--helping each state develop an environmental education plan for its principal resource management agency;

--working with the member states to set up formal and informal working relationships between the education and resource management agencies in each member state;

--setting up linkages which would lead to informal and formal cooperative and coordinative activities between the member

states.

As time passed, most of the member agencies and the organization met these initial objectives, so another set of objectives evolved. These included:

--providing programs and materials through the organization and in cooperation with other agencies for distribution and use in the 13 western states;

--setting up working relationships with state agency groups in other regions of the country, federal agencies, and private conservation organizations;

--providing educational opportunities for members through which they might strengthen and improve their skills;

--exchanging materials and information, expertise, and state level programs and activities for the benefit of the members.

This information is provided as background to give you a context for understanding the scope of WREEC's impact since its founding in 1971. WREEC began as an organization with a regional focus, dedicated to bringing together resource professionals and educators with state level responsibilities who had a common interest in conservation and environmental education for kindergarten through high school age youth. Time has shown that WREEC's philosophy, products, and methods have proven to be of value throughout the United States, in Canada, in Europe, and, increasingly, in regions throughout the world.

Project Learning Tree and Project WILD The two major accomplishments of WREEC to date are Project Learning Tree (PLT) and Project WILD. Both are educational programs designed especially for use by teachers of students in grades kindergarten through twelve. Project Learning Tree emphasizes forest resources while Project WILD focuses on wildlife and its habitat. PLT was developed by WREEC beginning in 1973 with a grant from the American Forest Institute and is maintained to this date through a cooperative effort including a combination of forest industry and state monies. Project WILD was developed by WREEC beginning in 1981 in a cooperative agreement with the Western Association of Fish and Wildlife Agencies. Although developed at different times and with different cooperating sponsors, the programs are similar in these ways:

--Each has two instructional activity guides for educators--one especially for elementary teachers and one especially for secondary teachers--based on materials written by classroom teachers and natural resource professionals in regional writing conferences. Each guide contains approximately 80 instructional activities, written in such a manner that they are readily adaptable to a variety of curricula and learning situations.

--To obtain copies of the guides, teachers are asked to attend a minimum six-hour workshop which serves to familiarize them with the content and approaches to instruction, and to give

them direct experience in using the activities.

--There is a natural resource professional/educator steering committee which monitors the program, sets policy, and makes changes and modifications as needed. The steering committees for each project also assess the need for development of additional materials and services.

--Both programs are used in more than 40 states, with additional states making plans to participate, and have resulted in a viable national network of classroom teachers, school administrators, workshop leaders, natural resource agency professionals, representatives of the private sector, community leaders, university faculty, representatives of private conservation organizations, and youth organization leaders.

Both programs have some unique features. Project Learning Tree appears to be the first genuine partnership between representatives of private industry in the natural resources field and mainstream public educators, playing by the rules of public education. Project WILD, the newer of the two programs, benefitted to a great extent from the experience gained in developing Project Learning Tree. Wildlife agency personnel are exercising real leadership in their roles as partners and co-developers of Project WILD, and seem to recognize with sincere commitment that education is a long-term process.

Both Project Learning Tree and Project WILD are already

phenomenally successful, although their work is still in its infancy. The programs combined have reached more than 200,000 teachers in instructional workshops, and literally millions of youngsters through them. Both projects are successful because: 1) the people who were going to use the materials were closely involved in the development process; 2) natural resource professionals were and continue to be actively involved in the development and implementation of the programs and can therefore work with educators in a supportive and co-equal basis; 3) both programs are dynamic, improving over time, and continually developing a national and international network of people who share a commitment to their goals of improving education about natural resources, the environment, and a responsible conservation ethic that will serve us now, and in the future.

CONCLUSION

It is obvious, I think, that educators and resource managers are a partnership with a future. Precedents have been set, progress has been made. As I am fond of saying, "There is something under the tree for everyone." Let us get on with the job.